HOUSE OF COMMONS
CHAMBRE DES COMMUNES
CANADA

# Standing Committee on Natural Resources

RNNR • NUMBER 096 • 1st SESSION • 42nd PARLIAMENT

EVIDENCE

## Tuesday, May 8, 2018

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**Chair**

**Mr. James Maloney**

# Standing Committee on Natural Resources

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● (0855)

[*English*]

**The Chair (Mr. James Maloney (Etobicoke—Lakeshore, Lib.)):** Good morning, everybody.

All right. We're on schedule and we have two sets of witnesses.

From the Canadian Energy Research Institute, we have with us Allan Fogwill.

From Pembina, we have Nichole Dusyk, who is here with us, and Mr. Israël, by video conference.

The process is that each group gets up to 10 minutes to do their presentation, followed by questions from members from around the table.

Mr. Fogwill, sir, why don't we start with you?

**Mr. Allan Fogwill (President and Chief Executive Officer, Canadian Energy Research Institute):** Thank you for the opportunity to address the House of Commons Standing Committee on Natural Resources on the concern regarding energy data in Canada.

I'll start my remarks with my recommendation that Canada establish an independent energy data agency using a governance model similar to that used with respect to the U.S. Energy Information Administration.

We have been here before. Numerous organizations in the energy sector have noted for decades the need for an independent energy data centre. More recently, we have seen concerns raised about the lack of such an agency.

In 2012, Michal Moore, from the University of Calgary, published "A Proposal to Create a Pan-Canadian Energy Information Organization". Also that year, we had this glaring headline from a *Financial Post* journalist, Jameson Berkow: "Finding information about the Canadian energy industry is easy—if you go to the U.S." In addition, in that same year, the Senate's standing committee on energy and environment stated, "It's Time for a Canadian Energy Information Agency."

In 2015, the Canadian energy strategy, agreed to by all the provinces, included goal 3.1: to "[i]mprove" the "quality of energy data across Canada". That led to a discussion between the deputy minister of Alberta Energy at the time, Grant Sprague, the assistant deputy minister of energy at NRCan, Jay Khosla, and me. We agreed that it was important to reach out to stakeholders from across the country to see what they wanted regarding energy data and the status of data in Canada.

During that time, CERI produced an assessment of the data challenges we face in Canada, which include the following ones.

There is a lack of data. Only 38% of the 189 potential indicators are gathered. In particular, we lack information on emerging technologies and new energy services.

There is incoherent data. For example, we found at least 10 different definitions for GHG emissions.

There's inconsistent data. Out of 26 indicators assessed from various sources, 42% differed in value by more than 10%, so it is difficult to determine which source is correct.

We also found data lacking credibility. A CERI survey found different levels of trust by stakeholders regarding organizations that produced data or analysis. That percentage of trust varied as follows: government agencies, 67%; governments, 17%; economic experts and academia, 50%; and, industry associations, 42%.

There are also data gaps. To generate a complete set of data requires a review of up to 20 sources of major and minor publications, and that's beyond the resources and expertise of most stakeholders.

The data is not timely. Sixty-one per cent of data is available after one year, so the rest is still waiting, which means that trends in the data are difficult to produce, as is seeing where we are at any one time.

The full data gap analysis report is provided to the committee as background document A. You should have it in your package.

CERI, the Ivey Foundation, and the Trottier foundation worked together to gather interested people from across the country to discuss what needed to be done. In 2017, after two years of discussion, we came to some clear determinations of what was needed, but no one at the time was willing to put funding towards achieving an energy information organization.

The stakeholders were unanimous in their support for an independent and neutral agency with some analytical services. I've brought a summary of the overall discussions as background document B. You should have that.

CERI worked to reinforce our understanding of stakeholders by conducting a survey regarding the need for an energy information organization. The results of that study are included as background document C.

To crystalize our thinking on this matter, CERI developed a business case for stakeholders to reference. The full document is attached as background document D. However, the main responsibilities of an energy information organization would be threefold: data management, analysis and reports, and communications.

● (0900)

Data management would include up-to-date use of artificial intelligence tools and machine learning and cover things like data clearing and quality assurance, data reconciliation and harmonization, ensuring relevance and timeliness, and data gap analysis and filling the gaps with research.

The second part was analysis and reports. From looking in the past we would conduct analysis of historical developments and trends. The current would look at market monitoring and assessments, and the future would look at scenario analysis unfettered by existing policy.

From a communications perspective, we would ensure unrestricted access to information and make sure the information was shared across organizations in the country.

Key to the success of such an organization is an open platform for sharing data. Many organizations and governments in Canada gather data. We should leverage these activities and the value they create by forming a collaboration among the parties. This can build trust, which is vital for the data being gathered, and promote the use of this information as a source for evidence-based decisions by government, industry, indigenous groups, and environmental organizations.

This country is in the midst of a transition to lower-carbon energy systems. Important decisions are being made that will affect the lives and businesses of us all. Without a comprehensive and credible set of data that we all recognize, those decisions and that transition will be more challenging.

Thank you.

**The Chair:** Thank you very much, sir.

Dr. Dusyk, you're next.

**Dr. Nichole Dusyk (Postdoctoral Fellow, Federal Policy, Pembina Institute):** Hello, and thank you for the allowing us the opportunity to comment on the state of energy data in Canada and to offer our recommendations.

My name is Nichole Dusyk. I'm a postdoctoral fellow with the Pembina Institute, and my colleague Benjamin Israël joins us from Calgary. He's a technical and policy analyst with the responsible fossil fuels program.

The Pembina Institute is a national, non-partisan, non-profit think tank that has over 30 years' experience providing research and recommendations to inform energy policies in Canada. Today we will be discussing three issues: why good energy data is crucial to advance effective climate policy and support the development of the low-carbon economy; the state of energy and climate data in Canada; and our recommendations for improving energy data.

Ben will talk about the first two points, and then I'll follow-up with recommendations.

**Mr. Benjamin Israël (Analyst, Pembina Institute):** *Bonjour.*

The Pembina Institute is an intensive user of energy and climate data. On a daily basis, technical and policy experts in our organization are accessing and analyzing energy and energy-related data from various federal and provincial agencies. This includes analysis to support the development of methane regulations, to re-envision freight transportation in the GTA, or to provide recommendations on how to decarbonize electricity generation in Alberta. As a result, we have a practical understanding of the issues and limitations of energy data in Canada.

In addition, our organization has a long-standing support for evidence-based energy and climate policy. We believe that high-quality data and analysis are a critical component of informed public policy, and we know that in Canada we have work before us to ensure that decision-makers from government, but also from businesses as well as civil society, have access to timely, complete, and independent energy data and analysis.

First, I would like to explain why good energy data is crucial in a context of energy transition. Our energy systems—that is, the way we produce and use energy—are under huge pressure to change, and they are already changing at a pretty fast pace.

A first cause of this change is the imperative to develop low-carbon alternatives to address climate change. A second cause is purely economic: some zero-carbon options have become more cost effective than hydrocarbons. Wind power, for example, is now a cheaper option than natural gas to produce electricity in many jurisdictions. A third reason is the emergence of new technologies. Think of smart grids, for example, or the rapid change in behaviours that affect energy demand. Think of millennials, for example, who drive significantly less than previous generations.

For all these reasons and many other reasons that I won't have time to expose here, Canada's energy systems are changing very fast. As a society, we need to better understand and document this change if we want to accelerate the energy transition and seize the opportunity offered by the new economy.

Energy data in Canada suffer from many flaws, and these flaws impede our ability to develop efficient and effective policy, to suggest alternative policy pathways, and to fully support the rise of a clean economy.

First, there is a quality issue. Some data made available are inconsistent. For example, StatsCan reports that Quebec is using significantly more natural gas than it is supplied with. Second, there are missing data. Some public reports do not include major energy sources. For example, the report on energy supply and demand, which is the go-to place to understand how we generate and use our energy in Canada, does not report wind energy, solar, and biomass as energy sources.

Quality and missing data are only two of the most frequent flaws. I won't have time to develop here all the issues at stake, but we could easily also add consistency across datasets, confidentiality issues, transparency issues, granularity, and availability in a timely manner, etc.

We have entered a data-driven world. We need credible and reliable energy datasets to develop informed, transparent, and accountable policies in order to accelerate the energy transition as well as the rise of the new clean economy in Canada.

Thank you.

● (0905)

**Dr. Nichole Dusyk:** I'll now briefly go through some of our recommendations.

In our role as advocates for evidence-based policy, we have recently undertaken a series of expert interviews and developed recommendations for modernizing the National Energy Board. The state of energy data was raised repeatedly in those interviews.

Combining what we heard from the 23 experts we talked to and what we know from our own work, we recommend harmonizing and aggregating data across federal, provincial, and territorial agencies; producing energy data with aligned timing, units, and assumptions; expanding the scope of collected data to include, for example, demand-side energy data, information on international and inter-provincial energy trade; data that is as granular as possible and in formats that can be easily disaggregated and manipulated; improved quality assurance and, where applicable, information on assumptions and inconsistencies between datasets; and reduced time lags between the collection and publication of data.

To implement these recommendations, we further recommend the creation of an independent Canadian energy information agency.

A second finding from our research was the issue of independence and the need to separate data collection and analysis functions from policy-making and regulatory agencies.

In the case of the National Energy Board, we have the same body that is evaluating and regulating a project also producing the energy and supply and demand forecasts that may be used to evaluate that project. This creates a situation where the forecast used to determine project feasibility may not be viewed as sufficiently independent. The NEB expert panel also recognized this issue and recommended creating an independent energy information agency. We agree and would like to highlight that there are two separate functions that need to be considered: data collection, and data analysis.

We recommend separating these two functions, expanding energy data collection at Statistics Canada, and creating a new Canadian energy information agency charged with disseminating energy and climate data.

We envision the new Canadian energy information agency relying on Statistics Canada for the collection and harmonization of energy data. This is consistent with the mandate of Statistics Canada, and it makes use of existing data collection capacity, expertise, and relationships with provincial governments.

The new energy information agency should be housed within Natural Resources Canada and report to the Minister of Natural Resources. However, the independence of that agency should be established by specifying, in legislation, that the agency does not require review or approval of its statistics or forecasting by any government entity.

The mandate of the agency should include reporting quarterly on energy supply, demand, sources, and downstream consumption, including international and interprovincial energy import and export; producing annual scenarios for energy supply and demand, including a reference case that considers domestic and international action on climate change; producing an annual report on Canada's progress towards fulfilling its commitments to addressing climate change; managing a coordinated interface, a one-stop-shop platform to disseminate all energy data and analysis; making all data available to the public at no cost in easy-to-use formats; conducting proactive energy education to increase energy literacy; participating in project hearings as expert witnesses with respect to energy and GHG emissions modelling; and finally, advising government ministries and agencies on energy matters upon request.

In conclusion, we would like to thank the committee for initiating this study. Ensuring that we have high-quality energy data and analysis is essential to good decision-making, and is especially critical in the current context of rapidly changing energy systems.

We look forward to the recommendations that come out of this study and thank you for the opportunity to participate in the discussion.

● (0910)

**The Chair:** Thank you very much.

Mr. Harvey, you're going to start us off.

**Mr. T.J. Harvey (Tobique—Mactaquac, Lib.):** Thank you to all of the witnesses for being here.

Ms. Dusyk, I want to start by touching on a comment you made about the creation of this overarching body, and it having its independence but falling under Natural Resources Canada, which would be counter to the U.S. model, which I think is completely independent.

Why would you suggest that it fall under NRCan? Why would we want to take the independence of an organization and continue to place that underneath the oversight of the department?

**Dr. Nichole Dusyk:** Well, our recommendations were largely designed around the idea of trying to minimize additional resources that are needed: rather than creating an entirely new institution, use the capacities that already exist.

I will say, though, that we know there are other models out there, and more important than the actual structure of the model is that issue of independence. We felt that ensuring independence by including a legislated mandate, that it does not need to report to the Minister of Natural Resources for its statistics and forecasting, would be sufficient.

We'd be open to any model that can ensure that both data collection and analysis are independent. That is our primary focus.

**Mr. T.J. Harvey:** Mr. Fogwill, would you like to comment on that as well?

The reason I ask the question is because I see this idea of an independent agency as being something that's truly independent. It's so that not only over a two-year or four-year period, but over a long period of time, Canadians can see it as being a source for consistent data that's relevant to what's actually coming from both existing industry and new industry. Whether it's renewables or traditional sources of production from the energy sector, it's relevant data that's completely removed from government altogether.

● (0915)

**Mr. Allan Fogwill:** The kinds of debates we're going to have in this country are often going to be between the federal government and provinces. If one of those governments has control over this data agency, it will always be suspect by the other.

When we talk about our proposal for an independent agency, it's where both the federal government and the provincial governments are involved in the governance and no one has complete control. Trust is a very important part of the organization. If there's no trust, don't even start. What will happen is that you'll put resources into something, and other people will say they're not going to use your information because they don't trust you. Therefore, they'll set up their own and you've lost right from the beginning.

Where you have the partners in this confederation involved in a lot of resource and environmental issues, they also have to be involved in the data organization. I don't think it should be part of NRCan. I don't think it should be part of an internal federal government department. I think it should be separate, and in a way that's transparent and has the provinces involved.

**Mr. Allan Fogwill:** It goes to the role that you want to have the different governments play. If you want them to have a direct governance role where they're on a board of directors, for example, that's one model. Another model is just providing funding; that's a second one. There are myriad approaches you can take to get towards something that's a collaborative approach between the provinces and the federal government.

I think what it really means is that you have to a find a solution where the provinces will agree. If they don't agree, then the idea about a credible independent organization will only be seen as credible and independent from the federal government. The provinces will continue to put their resources into data collection and analysis into their own departments.

**Mr. T.J. Harvey:** The reason I asked that question is because in testimony last week from the representative from the U.S. administration, we heard something similar, but contradictory also. It was that only when they separated themselves from the states and used this separate overarching body that was removed even from federal governance to gather and analyze this information, but stepping away from utilizing current information coming from each of the individual states, did they get true relevant data.

They indicated that the data they had been getting from the states was sometimes skewed towards what the individual states were pushing for at any one given time. By completely going away from a model that tied itself it to either state governments or the federal government, they were able to achieve better outcomes with more reliable data. There were fewer people who had an interest to play in how that data looked.

**Mr. T.J. Harvey:** The testimony we heard from the U.S. government the other day indicated that each of the states were still individually doing this, but the governing body that is deemed to be the most credible relevant source for this information in the U.S. has no connection with any of the individual states.

**Mr. Allan Fogwill:** We don't work in the same way the United States does. There's a lot of collaboration among the different provinces. The Council of the Federation is a really good example of that.

I don't know if we have to go to the U.S. model. I think if there's a way to take into consideration the approach that provinces are working with the federal government right now, maybe we should start there. If it doesn't work, we can always change it.

But that is just the governance side of things. It's not the analysis. It's not the data itself. It's how you get that trusting relationship starting to be built on what's coming out of the organization. If that is in a form that completely separates the provinces and the federal government, that's fine, but I don't think you want to start there. I think you want to start with them all together and see if you can work it that way, because in the long run, that helps to generate trust. If they are directly involved with how the organization runs, then they'll go back to their counterparts in the different provinces and say, "Yes, this is a legit piece, and they have credibility, and you should accept it."

● (0920)

**The Chair:** Thank you.

Ms. Stubbs.

**Mrs. Shannon Stubbs (Lakeland, CPC):** I think I'd invite both of you to expand on this issue. We do seem to be getting similar testimony but then also some contradictions. It will be no surprise that as Conservatives we are reticent to support a model that would involve the creation of a whole new branch of government and expenditures. However, obviously on this issue of collecting, analyzing, and providing data, it clearly must be independent and objective and expert-based to provide evidence for policy-makers and decision-makers.

Previous testimony from Stats Canada reinforced what you're saying and what we all know about the variety of bodies from which energy data comes—provincial and territorial regulatory bodies, industry associations, and Stats Canada. Stats Canada also contended that they already have a model for a single information hub, and they believe they have models that could be adapted for these specific purposes, although there was then follow-up testimony from others saying that at one point their model was world-leading and now maybe is ineffective and out of date and requires some improvements.

I'm trying to figure out if really what's required here is a mandate or direction from the federal government to require the sharing of information among these regulatory bodies, like automatic reporting —I'm not sure why that doesn't happen—but hopefully not requiring a whole new branch.

Given that maybe that's part of it, that the feds have to say that this has to happen, do either of you think it is possible that the organization that manages it could be completely supported or be in the private sector and have a relationship like that with government, rather than being embedded right in a department and reporting?

**Mr. Allan Fogwill:** Let me speak to the last part about being supported in the private sector. We had a very disappointing meeting about this time last year. We got on the phone with all these stakeholders, and they said, "This is a great thing. We should do this. It would be wonderful." Then the next question was who has money for it?

**Mrs. Shannon Stubbs:** Right.

**Mr. Allan Fogwill:** There was silence, right? They said, "Let's get the federal government to do this." That was basically it. They all love the idea, but there's very little money floating up to put towards it.

Would it last in the private sector? I don't think so, unless there were some assured funding streams on which it could depend. If there were an allocated funding stream from all 14 levels of government, I think that would work. Having certain caveats or what have you associated with the funding such that it would have to meet certain performance standards, for instance, that are out in the open and clear, I think would be important.

I go back to the way the government is working right now, and there are three issues that come to mind. Two deal with StatsCan and one deals with the National Energy Board.

On the two with StatsCan, we're all aware of the long-form census debate, and that was resolved by the chief statistician resigning in protest because the government had a requirement to make some changes that didn't seem, in his opinion, to be appropriate. That's an example of where government gets directly involved in that activity. A second one was the impasse between StatsCan and Shared Services over the computer systems. One thing that I think would be vital in having something be successful is a top-of-the-line new type of artificial intelligence that anyone can use with very little training. I don't see that happening any time soon within the federal family, given other issues such as being paid on time, for example—figure that out first and then look into the future.

In terms of the National Energy Board, some of their analysis done several years ago was limited to current policies at the time. Their scenario analyses, which may have looked at different options, weren't allowed to include alternative policy scenarios.

Those are examples of where it would be difficult to work in the private sector and is difficult to work in the public sector. Either one will work if you resolve some of those issues: funding in the private sector and legislative independence in the public sector.

● (0925)

**Mrs. Shannon Stubbs:** Do you have anything to add?

**Dr. Nichole Dusyk:** I do. I feel that whatever organization gets created needs to have a really strong public interest mandate. If it were private, particularly if there were a for-profit model, I would worry that the public interest mandate would be compromised.

The committee might look at the example of the Canadian Council on Social Development, which I believe in the late eighties or early nineties, as a non-profit, actually did a function of data analysis on socio-economic issues. From what I understand, it was considered quite credible. It was given a federal contract to do that. It no longer performs that function, but it is a model of a completely independent agency that did analysis and was trusted in that analysis in terms of doing it transparently and being seen as credible by a broad range of stakeholders.

I think it is possible, but again, I would emphasize that for the sake of public trust I think we really need independence, and that includes independence from policy and regulatory functions, but also independence from industry. We don't want particular sectors of industry to seem to have more influence on the data. Especially in our current context, where our energy systems are changing really quickly, we want to make sure that it's independent of any particular industry or any particular side of industry.

**The Chair:** Thank you. We were a bit over.

Mr. Cannings.

**Mr. Richard Cannings (South Okanagan—West Kootenay, NDP):** I'd just like to thank you for being here for us. I'd like to follow up on all this and talk about different models of what an independent agency might look like.

There is one agency that I'm personally familiar with through my past life as a biologist. I used to sit on the Committee on the Status of Endangered Wildlife in Canada, which is a body made up of representatives from federal, provincial, and territorial governments along with and indigenous and academic representatives. It provides advice to the federal government under legislation such as the Species at Risk Act, so it's independent in that sense. There's a secretariat that supports it in the Ministry of Environment and Climate Change, so the support function is funded by the federal government.

I'm wondering if that sort of model will work. The only non-independence there is that the money supporting it is provided by the federal government, and if they don't provide enough money there are certain constraints that happen.

I wonder if all of you might want to comment on that kind of model. You mentioned the provinces and federal government coming together, and it's also very important that indigenous governments be represented. It's something we've heard time and time again in this day and age.

● (0930)

**Mr. Allan Fogwill:** A model like that might work, but the issue there is twofold. One is that because of the funding structure, they are always beholden to a third party. It doesn't really matter what organization you work for; you always know where your money is coming from and you make sure you don't piss those people off. If their money was solid and secure, then they'd have independence in that sense.

An example is the U.S. Energy Information Administration. They were created in the 1970s, and various parties have taken a run at them, both in terms of the legislation but also their budgets, and have been unsuccessful in attacking them. You can get at an organization through its funding, so that is one aspect.

The other aspect is the secretariat function, because the secretariat function can be staffed by someone else, and they'll staff it with the kind of people they want to have to make sure that whatever they're looking for from that organization is going to come out of that organization. I'm not saying that happens, but there's the opportunity for that to happen.

If there's an opportunity for that to happen, then other people would look at that and say they have a credibility issue. They have a credibility issue in terms of the budget as well as the staffing.

**Dr. Nichole Dusyk:** To pick up on what Mr. Fogwill said, that funding is really critical. You might need to mandate an extended funding period, up to 10 years, at the beginning of the organization, to ensure that stability and ensure it gets created.

There are a number of models that would work. Ones that are partially housed within government are workable and potentially less resource-intensive, but again it really comes down to the functions you want it to perform and this issue of public trust and independence, which are really linked.

I don't have a definite answer, but I think that rather than the actual structure itself, what you want that structure to achieve and whether you can achieve it with the model needs to be put at the forefront.

**Mr. Richard Cannings:** I'd just like to switch gears now and talk about timeliness of data.

Mr. Israël mentioned that things are changing rapidly, and that to keep abreast of things we need timely data. I am wondering if perhaps both groups here could comment on what kinds of data tend to take the longest to get. Why is that, and how could we fix it? Is that, again, a problem with the system, or is it just a problem with how the data is gathered right now?

**Mr. Allan Fogwill:** It's a bit of both, and I'll speak from the perspective of information coming from Statistics Canada.

At the Canadian Energy Research Institute, we use a lot of Statistics Canada data. We use it for our economic models for input and output analysis. There's a lot of information behind those tables, and it's very vital that the information be gathered, vetted, and then put into the tables themselves. At the national level, you can get a table for last year's information probably 18 months after the end of the year, maybe a year. The real meat of the matter is understanding the product and material flows between the provinces and the details behind that, and that takes three to four years for that same year. Right now we're doing analyses on interprovincial and international flows at the provincial level that are from 2013, and we just got those. We were using 2011 data until very recently.

When we're talking about some significant changes in the electricity system, the oil system, or the natural gas system, it will take a long time for those models to be put together. Once they're run by analysts, they're often broken, because it's not always right the first time. It might take another six months for them to be useful, so you could be looking at five years before you've got good analytical tools to tell you what happened five years ago in a different situation.

● (0935)

**Dr. Nichole Dusyk:** I'll let Mr. Israël comment on that.

**The Chair:** If you can do it very quickly.

**Mr. Richard Cannings:** Do you want to comment quickly on that?

**Mr. Benjamin Israël:** Sorry, yes. I have a hard time hearing you.

I can definitely build on what Mr. Fogwill was saying.

At the Pembina Institute, we typically work with data from two years back. Even with that, whenever we have data from two years ago, like on greenhouse gas emissions, for example, we have data from 2016, but we still spend a lot of time going through some inconsistencies. Sometimes you have some kind of recalculations with the datasets compared to the previous years, so you always have a bit of reconciliation to do. It's not only that the data is coming late, like two years after the year it is for, it's also that you need to spend a bit of time to try to understand it and make sure you fully understand it.

**The Chair:** Sorry, I'm going to interrupt you and stop you there.

Mr. Serré.

[*Translation*]

**Mr. Marc Serré (Nickel Belt, Lib.):** Thank you, Mr. Chair.

I am going to share my speaking time. Mr. Harvey said he had an important question to ask.

[*English*]

**Mr. T.J. Harvey:** Thank you, Marc.

I just want to highlight something very quickly. It's not even so much as a question as it is a statement.

The NEB's modernization panel studied this issue and added something. You know, I've sat on public accounts, and every department is struggling with data. It just seems to be this overarching problem that's across the broad strokes of government. We can never seem to have relevant data in a relevant time frame that allows us to make accurate decisions.

Their recommendation was that an independent organization that would be federally funded and at arm's length from government could take all the relevant data from the sources that were willing to participate with it and use that data to make better and more informed decisions about how we create energy policy in this country.

Just in this last five minutes, we've been talking about how we're utilizing data from five or six years ago, and some of it is from eight years ago. That's crazy. If I told that to somebody in the private sector, and I was working for them, they'd just say, "Get out", but because it's government, you can get away with that. It makes no sense at all.

The reason I made the earlier comment that it should not be within the purview of the NEB in my opinion is that I believe it needs to be an arm's-length institution that's not looking for funding but is simply there to give Canadian people relevant data so that they can form an opinion about energy policy in this country.

That's all I want to say.

**Mr. Marc Serré:** Mr. Fogwill, you mentioned the importance of establishing an independent agency. That was one of your recommendations. We also have to get the trust of the provinces that have natural resources and jurisdictions that have data. There's a complexity there. Even if we had millions of dollars to set up this independent agency, we still have the challenges of ensuring we get the buy-in and agreement of all the provinces and all the stakeholders for national energy programs.

Before I go to you, I want to ask Ms. Dusyk: If we don't have the millions of dollars to set up an independent agency, what are the gaps right now with NRCan and Statistics Canada? What could we do to get this data more real-time and more relevant today? If we have the millions of dollars, we'll set up the independent agency. If we don't, what can we do specifically, today, to get better data?

● (0940)

**Dr. Nichole Dusyk:** Part of the rationale behind the model we proposed was that it is doable. Statistics Canada has the mandate to collect the information. It has relationships with the provinces.

I will let Mr. Israël comment on what we can do to get more timely data, immediately.

**Mr. Benjamin Israël:** That's a great question because I'm not totally familiar with how the bodies work, internally. I'm sure something is feasible. I think there should be better coordination across agencies so they at least produce consistent data, so you don't have one body saying energy demand is that, and another one saying it's actually 20% higher, or this kind of thing. This often happens.

It's about coordination. Maybe one way of doing it would be to release some preliminary reports like StatsCan is doing for a couple of datasets. We always need to take it with a grain of salt because it's preliminary, but at least we have the feeling that it's coming earlier, and we can have a better sense of what's currently happening.

More concretely, maybe they should also start releasing quarterly data, as opposed to yearly data like the way it is now. They can do some reconciliation of this data. Annual aggregation at the end of the year, more granular data, quarterly data, or even monthly data could be really helpful here.

**Mr. Marc Serré:** Thank you.

Mr. Fogwill, do you have any recommendations on this independent agency? How do we get the agreement and trust to move forward with the private sector and provinces to look at an independent agency?

**Mr. Allan Fogwill:** I think the first challenge—that there's a general recognition we need something—is already overcome.

The second challenge is going and talking to the provinces and the various industrial sectors, and saying you're serious. Then they will start listening.

It's not going to be easy. There are some provinces that won't sign on, as there have been with other national collaborative approaches we've seen. That's not necessarily a disaster. You're out there, you're wearing all your issues on your sleeve, and saying you want to do this because you want to develop something for the country and in the public interest.

That means when you're talking about what the organization is going to be and do, you have to be open to compromise. If you go in there and say the organization is going to be this and do that, and one of the provinces says that doesn't fit with what they would like to see happen, you're not going to get their buy-in. Buy-in is vital.

It doesn't matter if we all call this a glass, or a flagpole, or a panel. As long as we all agree, we can move forward. The trust is more important than the data. The trust exercise has to come first.

**Mr. Marc Serré:** Ms. Dusyk, could you provide a specific recommendation to the committee on what we could do for Stats Canada and NRCan to enhance, to fill in the gaps of specific data afterwards? That would be useful.

**Dr. Nichole Dusyk:** Yes.

**The Chair:** Thank you.

We're going to suspend for a moment and bring in our next set of witnesses.

Thank you very much for joining us this morning. As you can see, we don't always have enough time to keep everybody happy, but that's the job I was given. I've got to keep people equally unhappy. We are united in our gratitude for your coming in today.

● (0945)

**Mr. Allan Fogwill:** Thank you.

● (0950)

**The Chair:** Thank you very much.

● (0945)

_____ (Pause) _____

● (0950)

**The Chair:** We have two witnesses joining us for the second hour. We have Mr. Bruce Lourie from the Ivey Foundation, and Donald Mustard as an individual.

Thank you, gentlemen, for joining us today. The process is that each of you will be given up to 10 minutes to make a presentation, and then following that we'll open the table to questions.

Mr. Lourie, why don't we start with you, sir.

**Mr. Bruce Lourie (President, Ivey Foundation (Toronto)):** *Merci beaucoup.*

My name is Bruce Lourie, and I'm president of the Ivey Foundation.

The Ivey Foundation is a 70-year-old philanthropic granting and policy research organization. We have today a programmatic mission to help Canada transition to a low-carbon future using evidence-based policy and communications. Our goal is to better integrate the economy and the environment. We're basically an independent organization that provides grants and undertakes research in the low-carbon economy, and we support many of the groups that are working in Canada , such as the Ecofiscal Commission and Clean Energy Canada. I've done a lot of work with a previous speaker, Allan Fogwill, at CERI. We basically work with groups across the country.

Our work has included—and I think Allan mentioned this—convening experts across the country. We've done workshops in Toronto, Calgary, Ottawa, Montreal, and Vancouver, bringing together energy regulators, energy companies, provincial governments, Statistics Canada, the National Energy Board, NGOs, expert private modellers, experts from the U.K., and experts from the U.S. basically to help understand how we can create a more rigorous energy-data and energy-modelling capacity in this country.

One of the things that we discovered in that—and I'll share just a couple of anecdotes—is that if you're a Canadian energy-resources researcher or an energy-systems modeller or a climate-policy consultant, I'm not sure if you know where you are likely to get your data and information from. It's not Natural Resources Canada. It's not the Department of Environment and Climate Change. It's not Statistics Canada. It's the U.S. Energy Information Administration. Most of us in Canada doing research on these things actually have to go to a U.S. department to get the data that's compiled for us by this American government agency. Of course it's worth considering that, given the geopolitical context right now in North America, and given that we're doing things like negotiating NAFTA, I can almost guarantee that some of the information that we're using in those negotiations was generated by the U.S. government. I think that's a situation that clearly needs to change.

Canada's energy information systems were once very well regarded, but I'm going back many decades now. The support for science and energy data began to unravel in the mid- to late 1990s with precipitous declines through the early 2000s and up until very recently. I heard a story recently of two federal government climate change policy experts, one in Canada and one in the U.S. The Canadian was saying, "We wonder how in the U.S., with all of your data infrastructure, your energy experts, your think tanks, and your sophisticated models, you cannot come up with any national climate policies." The American replied, saying, "That's funny. We always wonder how, given that you have none of those, you still manage to in Canada."

We have a challenge in this country. The reality is we're—

**Mr. Jamie Schmale:** We'll be getting into that a little later.

**Mrs. Shannon Stubbs:** Yes, we will.

**Mr. Bruce Lourie:** The reality is that we're kind of bumbling along blindly, and by blindly I mean we have limited information. We have a lack of access to that information, and a lack of transparency around the information we have and how it's used.

I really wonder how we can have an intelligent debate in this country on the emissions potential of carbon pricing if we don't have the data to understand that. How can we have an intelligent debate on the environmental effects of pipelines if we don't have the data and we don't agree to a common set of data across this country?

One of the reasons why people always wonder how industry can say this, environmental groups can say this, and governments can say this—and they all have different answers and different numbers—is because we don't have a shared set of common, adequate, high-quality data in this country. Given that we often talk of Canada being an energy superpower, the reality is that when it comes to energy data, we are anything but an energy superpower.

I would go so far as to say that if some of this information and institutional infrastructure had been available 10 years ago, or perhaps even two years ago, we probably wouldn't be in the energy policy mess we're in today.

There are some great international examples, and I'm going to touch on one. Imagine a world where energy and climate data are made available to researchers, industry, and NGOs alike. Then, imagine well-funded modelling experts producing multiple sophisticated energy and economic models to inform policy. Add to that what I can only describe as the pinnacle of evidence-based policy-making, a group of independent experts with the mandate to set long-range climate policy goals based on expert models and scenarios, and that this evidence produces carbon budgets extending 10 years into the future, and that this is used by governments and evaluated, with the results fed back into those models to inform the next five-year planning window.

This isn't fantasy; this is exactly what the U.K. does. It's called the Committee on Climate Change. We know it can be done, and this frankly isn't a complicated matter.

Everything is politically complicated in Canada, but technically this isn't that challenging. The U.S. does it. The Energy Information Administration in the U.S. does it. The International Energy Administration in Europe does it. The U.K. does it; they do a very good job of it. I think we have a clear consensus in this country, based on the research we've done, the convening we've done, the experts we've talked to, that it isn't that hard for Canada to move forward on it.

Under the pan-Canadian framework, we've committed to an expert engagement mechanism to support climate policy with independent advice. It's been excruciatingly slow for that to develop. I think that needs to move forward. We don't just create energy data because it's fun having energy data; we create energy data so we can use it to inform policy. That's another mechanism that's needed.

I'll end with three main points.

One, we need to build the energy information capacity in this country, and we strongly believe that creating a Canadian energy information organization is something that's well needed. This needs to be an independent entity, and conceived as a partnership between groups like Statistics Canada, NRCan, Department of Environment, and other relevant energy data groups, experts, provinces, and the private sector across Canada.

Two, we need to support independent modelling and analysis. Our capacity in this country has declined to a state where we basically don't have the fundamental modelling and analysis we need to make these complex decisions. I know you heard from David Layzell at University of Calgary a couple of weeks ago, talking about a transition pathways initiative. We are strong supporters of that, and believe that kind of cutting-edge work is needed in this country.

Finally, we need an independent climate expert institute in Canada that will use the modelling and analysis to help provide the policy advice we need to the country. Again, it needs to be independent, transparent, evidence based, and expert. This was referenced in the pan-Canadian framework, but it has been very slow to emerge.

I've provided a couple of little graphics in my speaking notes that you can look at to see how these things might fit together.

With that, I'll thank you very much for considering this important issue and for having me present today. *Merci.*

● (0955)

**The Chair:** Thank you, Mr. Lourie.

Mr. Mustard.

**Mr. Donald Mustard (Researcher, As an Individual):** Thank you for inviting me. My apologies: there were some pictures to go with this, which you will eventually get.

The driving of the last spike in 1885 was the culmination of a nearly two-decade effort to bring certainty to a nation. It forged a national identity in steel and steam, in iron and timber, and 150 years later, Canada, a prosperous nation with strong linkages to the south and opening markets in Asia and Europe, seeks certainty in the development and delivery of energy data.

Why is data important? I guess you've had a lot of presentations on why it's important. I'm sure that in your daily life you do know.

For the next 10 minutes, I'll outline why an agency that can provide timely, reliable, and transparent energy data is necessary. I'll discuss the necessary elements of data management, acquisition, and sharing, define leadership gaps in transitioning to data-driven decision-making, and the steps to greater energy certainty, not only as a national policy but as a national imperative.

In preparing for this presentation, I came across a May 2017 *Economist* briefing that drew a striking analogy between data and oil. "Data", the authors propose, "are to this century what oil was to the last...[the] driver of growth and change." They continued:

> The new economy is...about analysing rapid real-time flows of often unstructured data...photos and videos generated by users of social networks, the reams of information produced by commuters on their way to work, the flood of data from hundreds of sensors in a jet engine.

The statement resonates with me as someone with a lifetime of experiencing work in and around the mining and energy industries, first as a researcher-scientist and oil production worker, later as a communications professional and atomic radiation worker, and, for the last 16 years, as an investigator of railway and pipeline accidents.

Why is data important? Or, more importantly, why is a national data agency necessary?

As the article hints at and a colleague of mine recently told me, the fundamental problem is that we're not getting snapshots of information about energy fast enough to make informed decisions about things such as energy planning and environmental impacts and such. It might be easier to ask, what are the costs of not having a national energy data agency in Canada? I think we're all living that.

If you had my pictures right now, you'd see a picture of the Mackenzie Valley, where the pipeline was first proposed as a joint venture partnership. A new effort came forward 27 years after that, which finally I think overcame the barriers related to aboriginal and industrial co-operation. As most of us probably also know, in December 2017, after a six-year-long process to reach approvals, the partners walked away—again.

We're losing opportunities, whether these are the right opportunities or not. I think the persons responsible for that.... I think there was a comment to this effect: "I don't know what the problems are, but a process that should take two years in a business cycle can't take six". The fundamental economics change so quickly that they can't do what they'd like to do.

The story also goes towards September 15 of 2008—in my story—where there was a meeting convened in New York of the leaders in the financial world to discuss the bankruptcy of Lehman Brothers. When they asked these leaders of business what their exposure to Lehman Brothers was, nobody knew. Once again, it was a great crisis in data.

What you need to know is that to manage, one needs to measure. To measure, you need to audit. To audit, you need data. In today's day and age, to know what's happening and what is going to happen, you need to know what is happening now. You need real-time data. The EDM Council, the Enterprise Data Management Council, which grew out of efforts to teach the finance industry how to do this, described a holy trinity of data management.

● (1000)

You need unique and precise identification of things. You need unified views of meaning across organizations, locations, linkages, and interconnections, and the procedure is actually the reverse of what you might think. You've got to start with what your business practices are, what you are trying to do, and work back, reverse-engineer, to what you need to do that, what the critical data elements are that are necessary to do these processes. Then once you've identified those critical data elements, you need to clearly and uniquely identify them, the taxonomy and the ontology, so you actually can work with them and everybody's working with the same understanding.

You need to establish a unified view across organizations.

I'd like to just note that many of us are dealing with something called Phoenix. Most people see Phoenix as a data processing problem, and it is in fact not a data processing problem. It's a data meaning problem. They started with the process, and then tried to make.... I guess the analogy might be that they started with the person and tried to make the pants fit the person.

We are now in a situation where we don't have the data we need, but we also don't have a common understanding. Further with the focus on modern data storage, large storage models, we all know the concept of the data lake. Really a lot of the discussions I heard when I was first sitting here, half an hour ago, were about structured data, and that's the least of our problems. In fact, our biggest problem may be that we're waiting until this data is structured before we actually take it and use it and apply it. It's too late then. It has already got the data tax applied, and the data tax is one of the things that you guys are discussing. You can't get the data fast enough to make meaningful decisions. You lose the opportunity whilst you're waiting for something to happen.

There's another thing that we're lacking. I spent the last two years in a program at Columbia University, a masters in applied analytics, and I went there because this was a program that was focusing on the leadership skills you need to do data processes. I was one of the people who worked on Lac-Mégantic, one of the investigators, and when we came through that process, there were 18 causal factors to the accident. As a person standing back, an individual, as I sit before you, what I saw was 18 opportunities to intervene that were missed, and when you looked at it, there was more than enough data. There was tons of data, but there wasn't data being prepared and provided in a timely manner and analyzed in such a way that you could take action to prevent the catastrophe.

Interestingly enough, the data that is currently out there in the public venue is the data mostly from media, and media gets involved when it's newsworthy. So the focus in the resource sector is typically on the low-frequency catastrophic events, which have horrific results. We're failing on two levels, one because we're not getting the data to prevent them or mitigate them, and on the other side because we're not sharing the information of what is happening.

One of the things that I've been trying to push forward is that we can't just say.... This institute is important, but you can't just think of it in isolation. Data cannot function in isolation. We have lots of silos in government where we've collected wonderful information, and I sometimes call it hoarding. I come from a family of great hoarders, so I understand a little bit about it. The reality is that we collect an enormous amount of data—and this is not unique to government. Data is dirty, it's messy, it's hard to work with, it's frustrating, it's inconsistent, and we don't want to give it out until we know we've got it right, and that's not how it works in today's day and age.

We need to get that data out of its silos. We need to get it into a process where we can actually access and use it, and the data lake and the modern data principles don't care what format it's in, as long as we've identified what it is and we know where to get it, and we'll process it when we use it, right? I call that schema on read.

What the program at Columbia was designed to do was to create a —

● (1005)

**The Chair:** Mr. Mustard, I'm going to have to ask you to wrap up.

**Mr. Donald Mustard:** Yes, you're going to have to cut me. I'll close up. I'll give you the four points, the things that I'd like to see here and I think we need to do.

Firstly, augment, don't duplicate. The EIA has been doing this in the U.S. for 40 years. Let's not try to repeat what they're doing. Let's learn from them and let's get it going, right?

Employee enterprise data management: let's make sure we have a common understanding and meaning. Everybody knows we're playing in the same field and from the same rule book.

I'd like to see trained subject matter experts, a distributed cross-functional network of chief analytical officers with subject matter expertise to interact with leadership in all departments and agencies, and also to work back with our natural engine for this, which is Statistics Canada.

We need shared open transparent data in a fast-fail iterative lean process. We need to be able to work in a way where we're testing, and we're not worried. The modern world is open source. We share our mistakes and our successes, but by working together we get a better result.

Thank you for your time.

● (1010)

**The Chair:** Thank you for your presentations.

Mr. Harvey, you're going to start us again, I understand.

**Mr. T.J. Harvey:** Thank you, Mr. Chair.

I want to start by touching on something Mr. Lourie said. At one point in his presentation he said we need to figure out how to have an intelligent debate in this country on a range of issues. I want to encourage him that if he figures out how to do that he should let the rest of us know. We're all looking for the same goal.

You talked about the unravelling of our energy data management overall in the late 1990s and early 2000s. What do you feel precipitated that?

**Mr. Bruce Lourie:** I think the technical answer was the need to reduce government expenditures. A major government review took place in the 1994-95 period of the Liberal government of the day. That led to significant cuts across the board. My experience is that often things that look easy to cut like science budgets, technical support, supporting modelling get cut easily because there aren't the vociferous lobby groups out there to support those things.

Then I think those kinds of cuts and that kind of thinking just proceeded. Over the past 10 years there was a more deliberate effort, almost ideologically driven, to reduce the science capacity of the country. It's really a combination of things.

**Mr. T.J. Harvey:** Do you feel that if an organization like the U.S. Energy Information Administration had been in place at that time and was an independent body that was not related to NRCan and had no relationship with Stats Canada but was operating under a federal funding mandate completely removed from a long-term work plan, this type of organization could have survived such a time frame and would have most likely changed the outcome of what our data situation looks like today?

**Mr. Bruce Lourie:** I believe that 100%. I think it's a combination of building, as they did in the U.S. and in Europe and the U.K., a credible entity first of all that has value to people. It has to be credible. It has to have value. It has to deliver products to people. It has to be well managed. All those things need to be done well.

Once people start relying on something like that, as not only Americans but we do here on the EIA, then it becomes difficult to take something away from people that has value. It has business value, policy value, social value. I agree very much with that statement.

**Mr. T.J. Harvey:** Coming from private business—and my honourable colleague Mr. Falk will probably agree with me on this—there's an old saying in business that if you're green, you're growing. If you're ripe, you're rotten. One thing that I think is important to note is that Canada is an established economy just like the U.S. is an established economy. The way you govern an established economy is far different from how you would establish a new, emerging economy.

If you look at it from a business perspective, if you took over ownership of a company and that company was presenting you with 18- or 20-day month-end reports on the fiscal situation of the cash flow of that company you would say that was unacceptable and that you needed to get to five days.

Isn't that what you would say?

Then you would make adjustments to allow that to happen. It wouldn't take six years, and it wouldn't take thousands of hours of consultation to get there. You would take decisive actions that would allow for a course change correction that would happen in a more timely manner. I think one thing I'm always frustrated about with government is that a lot of times we focus on results. It's very difficult to effect change if you focus on results. If you focus on change, you always effect results.

If you could see this organization unfolding, what do you think the best first step would be that the government could take in the creation of an independent organization that would serve this purpose?

● (1015)

**Mr. Bruce Lourie:** I'll jump in quickly.

**Mr. T.J. Harvey:** Not over a five-year period either.

**Mr. Bruce Lourie:** I would say the first step would be defining what it means to create something like this. I think that's defined. I think the work that Allan has done at CERI has pretty much defined what this thing needs to look like. This is a classic example that perfect can't be the enemy of the good. It's getting things started. It's sitting down with the provinces, the utilities, and the provincial regulators that want to sit down with the federal government and asking what this thing going to look like and who we need around the table.

Let's figure out, as well, what we are already doing, because the idea of augmenting what's being done is important. A lot of data has been gathered all over the place by all kinds of organizations, and we don't need to duplicate that, but we need to get people into a room to figure out a better way of coordinating.

**Mr. T.J. Harvey:** It's important for the federal government to come with an overarching structure to consult with each of these jurisdictions with a plan of how they see this independent organization functioning and then start with organizations, both public and private, that are on board with that, and try to build from there.

Do you think that it's something that has to be done with achieved consensus from the get-go?

**Mr. Bruce Lourie:** The first thing is that the federal government has to get their act together in terms of what NEB, NRCan, Transport, and Environment are doing. There has to be some internal consolidation of what data is being gathered right now in the federal government. Then I would say there needs to be a more iterative process. I'm not a big fan of consensus, but I'm a big fan of getting the right people in the room.

**Mr. Donald Mustard:** I would agree with the iterative word. I think you need to treat this like an incubator process. I think you need to go in there lean and mean. I used to have a small business. I did it for 10 years. What I realized was that, when you have no money, you learn to do things that you didn't think were possible. So I think you don't need a lot of resources, but you need to get out there and talk to the people who are doing it.

Take a page out of the Chinese business book: "We're not going to invent it; we're just going to take it once you've got it working, and we are going to avoid all those overhead development processes." Train in every department and agency in the government the skills to lead. You need subject matter experts who understand the data-driven process, who can work with technical teams, who have learned how to do change management, and can work and flex quickly and build that network to support through an engine. I would do it through Statistics Canada, because they have the machine. Those entities are going to need to be tapped into your C-suite. They need to be sitting at a table with the decision-makers and helping translate what they want to do into something of business value.

**The Chair:** Thank you.

Mr. Schmale, I believe you're splitting your time with Mr. Falk.

**Mr. Jamie Schmale (Haliburton—Kawartha Lakes—Brock, CPC):** I might go the distance, Chair.

**The Chair:** Okay.

**Mr. Jamie Schmale:** Thank you, witnesses, for your time. We greatly appreciate it.

Mr. Mustard, can you continue that thought about Stats Canada being the lead organization? As we kind of weigh that back and forth here, creating a new agency, department, or whatever you want to call it, is kind of....

**Mr. Donald Mustard:** You want to know how StatsCan could be a lead organization?

**Mr. Jamie Schmale:** Correct.

**Mr. Donald Mustard:** It's an old and wooden organization.

**Mr. Jamie Schmale:** Do you think we can reform Stats Canada as well?

**Mr. Donald Mustard:** I think what I'm talking about here is that any analytical process is a triumvirate. You have the subject matter expertise, you have the statistical skills, and you have the technical science skills. Those data science people need to be pointed in the right direction. That's what your subject matter expert is. He's not somebody who is going to be doing the work, but he's going to know enough about it to be able to tell people what to do and to be able to work with those technical people who, frankly, often aren't extroverted in nature. They are very good at doing work but not necessarily....

You know, one of the big problems with statistics is, one, you do statistical studies on things that everybody knows the answer to anyways, so why did you bother? Or two, you find a really neat answer to a really cool problem that has no value whatsoever.

That's how you train it, but the engines, tools, and machines are there, the super computers that you need to process. The knowledge to build a data centre and to manage enterprise processes is there. Why reinvent that? Help them, inspire them, motivate them, and give them a purpose. You would be amazed at what they can do.

● (1020)

**Mr. Jamie Schmale:** There's the other thing with data coming in, having the expertise....

What is also important—and it's one of my concerns about a potential new agency—is that if it becomes a branch of NRCan, or something like that, the data can be manipulated, right? No matter what the topic, you will get two sides to every story. Science is changing, right? The data comes in, and I agree somewhat with what T.J. is saying about independence. Stats Canada would be my preferred option. My fear is the processing of the data, the reliability, and the confidence, I think.

**Mr. Donald Mustard:** It's an example of chaos theory. It's not one or two options; it's an infinite number. What really works in chaos theory, and what some of the machine learning and AI techniques are discovering, is that they're able to predict the patterns in chaos theory further down the line.

Everybody is going to have their own take on data. Everybody has their own newspaper and their own TV channel now. The reality is that in that milieu, if you're using the same data you are going to come to things that are a consensus, that are the same in everyone's. They may have come up with a different interpretation, but the raw material they're working with is the same, and we're a long way ahead now.

**Mr. Jamie Schmale:** I have three minutes. I'll hopefully come back to you very shortly.

Sir, you mentioned, and we have had people come forward and say it many times at this committee, that there are a lot of gaps in the data around renewable energy. Here in Canada—in Ontario for sure—we are pouring billions into renewable energy, yet everyone says there is no data around that to prove its reliability or its worth, or whatever. I suppose you can't really answer why governments continue to go down this path even though we don't have the data, or do we?

**Mr. Bruce Lourie:** I was on the board of directors of the Ontario Power Authority for many years, so I might be able to answer that question.

I would disagree that we don't have data on that. There is a lot of data on that. The question is, who has access to that data and who uses it in the right way? Groups like the Independent Electricity System Operator in Ontario have all kinds of data. They have billions and billions of data points on everything in the system.

To comment on the last question and the idea of creating some kind of national organization, it would be some kind of hybrid, getting StatsCan involved because they have the legal ability to compel information, but also working with independent experts so that it's quasi-independent.

The issue is that we don't have a common set of, say, how renewable energy would be looked at in Alberta versus Ontario. We don't have a common understanding of how the systems, pricing, and subsidies are different. If we had some kind of centralized body in Canada, we could look at common information. How does Quebec do this? How does Alberta do this? How does Ontario do this? Right now we have very independent systems, with people using different definitions, measurements, and policy tools. That's the benefit of trying to get all this together under one roof, but that's also why it needs to have people from across the jurisdictions in this country, because we're a big, complex country, with a lot of autonomy within the provinces.

**Mr. Jamie Schmale:** If I can, Chair, I just want to move this motion:

> That, pursuant to Standing Order 108(2), the Standing Committee on Natural Resources recall the following witnesses, Greg Peterson, Director General, Agriculture, Energy, Environment and Transportation Statistics; René Beaudoin, Assistant Director, Environment, Energy and Transportation Statistics Division, Department of the Environment; Derek Hermanutz, Director General, Economic Analysis Directorate, Strategic Policy Branch; Jacqueline Gonçalves, Director General, Science and Risk Assessment; Tonja Leach, Managing Director and Bruce Cameron, Senior Advisor, at Quality Urban Energy Systems of Tomorrow, to provide additional testimony and clarity related to the study on the current state and future of national energy data.

● (1025)

**The Chair:** This is a new motion.

**Mr. Jamie Schmale:** Yes, but it has to do with the business at hand.

**The Chair:** All right.

**Mr. Jamie Schmale:** It's basically to give additional testimony. I thought we were on a roll, there, and we were coming to some important points. It's just to bring them back and hopefully get their —

**The Chair:** I'm just worried about the procedural business and a new motion. This isn't something we've had notice of before.

**Mr. Jamie Schmale:** That's correct. This is a new motion because it deals with business. It's my understanding that I can table it now, and we can have a vote on it—I do believe—being that it's of committee business at the time. I do have copies, if anyone wants one.

**Mr. T.J. Harvey:** Mr. Chair, we're prepared to vote on it too.

**The Chair:** Okay.

I take it you're not sharing your time with Mr. Falk, then.

**Mr. Jamie Schmale:** How much time do I have?

Sorry, Ted.

**The Chair:** We'll call the vote right now.

**Ms. Kim Rudd (Northumberland—Peterborough South, Lib.):** May I just add something?

**The Chair:** Yes.

**Ms. Kim Rudd:** Maybe we could amend it as time allows, because that's a long list, we have limited time before we rise, and technically, being able to get folks here by video just because of their schedules.... The way I heard the motion—and I could be wrong, because I don't have a—

**Mr. Jamie Schmale:** Do you have the copies?

**A voice:** Yes.

**Ms. Kim Rudd:** I just heard that we were doing it, but maybe we could just recognize that all best efforts will be made to invite them back.

**The Chair:** T.J.

**Mr. T.J. Harvey:** Can we suspend for just two minutes?

**Ms. Kim Rudd:** So we can read it....

**The Chair:** Yes. That's fine. I'll suspend.

● (1025)

(Pause)

● (1025)

**The Chair:** Do you have a comment?

**Mr. T.J. Harvey:** Yes, I have two comments.

First of all, I think we should reinvite them. I think it says "recall" them, but I don't think we really have the power to recall them. We could reinvite them to come, then.

Just for the record, Mr. Chair, the specific reason we were unable to hear from some—or all—of these witnesses was because of goings-on in the committee related to motions that were being brought forward. I just wanted to state that I think it's important we note that. I do think it's important that we hear from them and I just wanted to state it as a matter.

**The Chair:** Thank you.

● (1030)

**Mrs. Shannon Stubbs:** Mr. Chair, I find it surprising that the Liberals wouldn't agree wholeheartedly that the issue we debated—which delayed those witnesses—the Trans Mountain expansion, given the deadline and the fact that we only have two weeks left to receive the legislation the Liberals keep saying is coming, although no one over there seems to have a clue when it's coming, under which ministry it will be put forward, or what it will actually be, and given that there are only two weeks left of the sitting days for members to debate that, to be consulted, and to do all the things the Prime Minister promised Canadians and all of us, as elected representatives, that opposition members would be able to have meaningful roles—of course that's baloney—and full consultation and consideration.... I would assume the Liberals would actually be in complete support of the fact that ensuring that the Trans Mountain expansion gets built is an emergency and absolutely urgent, given the deadline. Really, then, we could just vote on my motion to have this study, and we could move forward with it immediately. Then we could get back on track with the data energy study— I'm not done yet—

**The Chair:** I wasn't interrupting you, for the record.

**Mrs. Shannon Stubbs:** —with no interruptions for witnesses, because we're on a very short timeline now. I think common sense would dictate that this committee taking responsibility for ensuring that the Trans Mountain expansion goes forward should be our highest priority, notwithstanding the importance of this study as well.

I would even agree with the testimony of the witness here, that energy policy is currently a mess in this country and that this would be—I would say—partly because the Liberals had aligned with the anti-energy opponents by attacking Canada's long-time track record as the most environmentally and socially responsible oil and gas producer in the world. This includes constantly attacking the NEB—the independent, objective, evidence- and expert-based regulator, which has been renowned for decades as the best in the world. Now we have arrived—

**The Chair:** I am going to interrupt you now because we are off topic.

**Mrs. Shannon Stubbs:** Now we have arrived at this place—

**The Chair:** We have a motion on the table, which I sense we have agreement on, and part of the objective is—

**Mrs. Shannon Stubbs:** I think we could have done that very easily.

**The Chair:** —to carry on with the witnesses, two of whom we have sitting before us, so I suggest that rather than continuing this, we use the time left to deal with this motion quickly, and then allow these witnesses to finish answering some questions. That, in my view, would be the best use of our time.

Let's vote on Mr. Schmale's motion, as amended, changing "recall" to "reinvite".

**Some hon. members:** Agreed.

(Motion as amended agreed to [See *Minutes of Proceedings*])

**The Chair:** Mr. Falk, I have bad news for you. You don't have any time to ask questions.

**Mr. Ted Falk:** I thought as a gesture of goodwill....

**The Chair:** I would recommend you turn to your right and bring that up.

In the meantime, Mr. Cannings, you have the floor.

**Mr. Richard Cannings:** Thank you both for being here today.

I want to start with you, Mr. Lourie, and just pick up on something Mr. Harvey said, kind of a high-elevation statement. You said if we had good data, we might not be in the policy mess we're in today. Earlier, Mr. Fogwill said that trust is more important than the data. I wonder if you could maybe expand on that, on the importance of having good credible data that we can all agree on and of doing good analysis independently, and on how those fit into a place where we can get good energy policy going in Canada.

**Mr. Bruce Lourie:** Credibility and trust around data are fundamental in this, and I think the way those get built is to actually have something that has a degree of independence to it so that it is an agency that wouldn't just be kind of ripped out or altered or influenced at the whim of governments.

I really think too that we do have some very good institutions in this country, which we can rely on to be part of such a structure, and Statistics Canada would certainly be one of them. But I think even if you look at how the Energy Information Administration in the U.S. operates these days, they've gone very much beyond the old statistics-gathering model of "We're going to do surveys. We're going to commission it all ourselves. We're going to figure it out all ourselves. We're going to hold onto it for several years and analyze it all ourselves, and then we're going to decide whether or not anyone else should see it, and there are going to be all kinds of onerous privacy restrictions basically preventing data from being used." That actually undermines the ability to use the data, and it undermines people's faith in the system.

I think Statistics Canada is moving forward on things, but we also really need to move to a model under which we can figure out who has the best data and how we can get access to that data. Again, on the example of electricity in Ontario, there is so much data that we don't know what to do with it. The issue is how we get it organized in a rigorous way so that anyone can look at it and analyze it and use it, as opposed to the system we have right now, which is very piecemeal.

I think independence and credibility are what build trust.

● (1035)

**Mr. Richard Cannings:** Okay.

I want to move onto timeliness. This seems to be a real theme today, from other witnesses as well. Mr. Mustard also brought it up. I remember the first time the NEB appeared before this committee, they presented a report that was clearly completely out of date, and I don't know whether that was their fault or the fault of the data that they were given. I'm just wondering if both of you could comment on timeliness of data and how we can move to a system that is more based.... Data is coming in all the time in real time. How can we make that data available to people and get away from this two-, three-, four-, or five-year backlog of data?

**Mr. Donald Mustard:** I guess we have to get over the fear to tap into the actual data stream. We—our regulatory frameworks and our government frameworks—still operate and work in a model that says, "Give us what you want, once you've had time to go through it and sort it out, and we'll have a look at it."

There are opportunities now. Industry has moved way ahead of us in terms of processes. In many of our activities, the information is there and readily available. It's simply about establishing a framework where, instead of having a human interaction in the data process, we simply go and get the data directly.

One of the biggest sources of error in data is the human input. If you have a process whereby somebody puts together a report, types it onto a piece of paper, and sends it over to you as an email, and then you get it on your end and you get somebody to type it into your data system, you've just caused not only a massive delay but a disaster on the data, which is unnecessary. You could have had the same information they're collecting to make the report just fed into your machine. We now have the automated processes to handle that. They do these kinds of things much better than we do. We're just not quick enough and never will be.

**Mr. Bruce Lourie:** Yes, I would agree with that. I think the hard part, really, is to stay ahead of the systems that will help us do this, to not get bogged down in the bureaucracy of data collection, and to really try to be as open and transparent as possible in regard to the new technologies that are available.

**Mr. Donald Mustard:** One of the real keys—I didn't get a lot of time to talk about it—is the Internet of things technology, the industrial Internet of things.

I'll give you a quick example. I did an investigation a couple of years ago. A runaway crude oil car collided with a standing train and derailed a bunch of cars. We went to look at the car. There was this device on top of one of the tank cars. I thought to myself, "I wonder what that is." Somebody used to call me "Inspector Clouseau" and I'd say, "I'm not Clouseau, I'm Columbo: I have one more question." I went to the source and found out what the tool did. I found out that it took GPS. It took G-forces in three dimensions. It gave the peak impact duration as well, and the time. We got data that we couldn't have gotten otherwise.

When we put that data into the system, what we found out was that the tank car had experienced a force four times the design capacity of the car. Then the obvious question becomes, how come this thing didn't make the six o'clock news? Well, again, because we got this data, we found the telemetry data: the impact duration was only five one-hundredths of a second. You had this massive impact on the car, and then it released before it had fully crumpled. It had actually buckled. There was a small buckle in the car, because essentially the train had hit with a crumple zone and the forces were transmitted through once they got the locomotives moving.

The point is, why aren't we accessing that data? Ask yourselves. Do we say that obviously this is way too expensive to get? These sensors on a car cost $150 a year. It's chicken feed. Why that's not a requirement on every tank car, I don't know. On the comparison between pipeline and rail, for instance, I don't think there's anything inherently that says—I investigate both—one is safer than the other, except that the pipeline has sensors in every foot of it and is being constantly monitored. But for that tanker train, it leaves the station and gets to the other end, and there are few steps along the way where they have a look at it. The reality is that you could be watching it in the same way, and one tank car derailing is a lot different from having 30, 40, or 50 derail.

● (1040)

**The Chair:** Thank you.

Mr. Serré, you have about three minutes left—maybe four.

[*Translation*]

**Mr. Marc Serré:** Thank you, Mr. Chair.

Some witnesses mentioned the need for a data base. My question is for both witnesses.

We sometimes hear the opposition say that there has been a problem for the past two and a half years and that we don't have data.

You said that we had missed opportunities over the past years. With regard to this lack of data, what era are we talking about? Are we talking about 20, 30, 40 or 50 years where we did not have the data to make decisions regarding very important projects? This reality does not only concern the past two years, but decades.

Is that the case or not?

[*English*]

**Mr. Bruce Lourie:** Right now, we're not able to make those long-range decisions, because we don't have the data infrastructure in place, so ultimately, this will help us. It's more than just creating the data. We have to create other systems within the government that will allow us to make that long-range kind of thinking, and use it for long-range, multi-decade planning, so I would support that.

**Mr. Donald Mustard:** The data typically now is attached to the process. You have something you want to do, you want to count widgets, and you collect the data for counting those widgets. You process it, and you have a very effective system for collecting and using that data to count widgets. That data may be perfectly valid for counting glasses, but because it's over here, we go and collect another set of data, that repeats the other set of data, and does it again.

We need to get away from this idea that data is in this repository. It's in a warehouse, and we can't get at it. That's the change in mindset. Yes, there are structural issues, but Amazon doesn't care about the location of the data. In fact, with all these big entities, the data is in a cloud. They go and get it. People who are given permission to the data can get the data, and people who aren't can't get the data. They build in security systems that are probably better than what our banks are using, and they're very effective at doing that.

**Mr. Marc Serré:** Earlier, Dr. Dusyk spoke about data collection, Statistics Canada data analysis, and NRCan. What are the gaps related to StatsCan that we as a government can look at enhancing, or providing more resources to get better data? What are the gaps at StatsCan today?

**Mr. Bruce Lourie:** We don't actually have all of the information coming from multiple sectors, multiple utilities, multiple industry groups. It's very limited right now in the overall data aggregation capacity. There is this historic difficulty of getting information out of Statistics Canada, because of the rules around proprietary information or corporate information, so those things could be done in ways.... As Donald said, big companies like Amazon have figured out how to get data out there. Statistics Canada needs to have the attitude of trying to get data to people quickly, as opposed to just gathering and keeping the data.

● (1045)

**Mr. Donald Mustard:** I would take these guys out, do an interchange with Amazon and Google, and make them spend six months or a year seeing how it's done, and learning the way you interact with data. What I see, and I worked in the public service, is typically an IT solution, because there are limited resources. If it's difficult to do, we're going to make it really simple. We just won't make it accessible, right.

If you have a server that's not plugged into the network, then you do not have the risk of somebody actually coming in and stealing that data, but it doesn't solve the problem. It cripples you as well as technically protecting your organization. It becomes a silo of collections that provides no value. Truthfully, if you're not going to use the data, then why do you collect it in the first place?

**The Chair:** That's a good note to end on.

Thank you both very much for joining us this morning. It has been very informative and very helpful to our study.

The meeting is adjourned.

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